CIWC EXHIBIT SR-3.0

CONSUMERS ILLINOIS WATER COMPANY

ILLINOIS COMMERCE COMMISSION
DOCKET NO. 03-0403
SURREBUTTAL TESTIMONY
OF
PAULINE M. AHERN

I. INTRODUCTION

Q. Please state your name, occupation and business address.

A. My name is Pauline M. Ahern and I am a Vice President of AUS Consultants – Utility Services. My business address is 155 Gaither Drive, P. O. Box 1050, Moorestown, New Jersey 08057.

Q. Are you the same Pauline M. Ahern who previously submitted prepared direct and rebut testimony in this proceeding?

A. Yes, I am.

Q. Have you prepared an Exhibit to accompany your surrebuttal testimony?

A. Yes. It has been marked as Exhibit No. SR-3.0 and consists of one Schedule.

II. PURPOSE

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to rebut certain aspects of the rebuttal testimony of Sheena Kight, Staff Witness for the Illinois Commerce Commission (ICC) concerning common equity cost rate. Specifically, I will address Ms. Kight's misrepresentation of or refusal to acknowledge portions of my rebuttal testimony. However, so as not to clutter up the record or needlessly inflate rate case expense by responding to the numerous instances of Ms. Kight's misrepresentation of or

refusal to acknowledge portions my rebuttal testimony, I will limit my comments to the more egregious instances as my rebuttal testimony speaks for itself.

Q. On page 2 of ICC Staff Exhibit 9.00, Ms. Kight takes issue with your assertion that analysts should attempt to emulate investor behavior. Please comment.

A. Ms. Kight states that your assertion "implies that investor behavior is homogenous, unvarying, and knowable" and that "investor behavior has none of those traits." However, the underlying assumption of security price determination and the concept of an efficient market is the homogenous expectations of investors. Harrington[1] states:

> We must begin a theory of investor choice with a description of the objective the investor has in mind. We assume that the investor's objective is to maximize the utility of wealth at the end of a given holding period. . . This assumption about the investor's objective is only the first step in the process of defining how investors behave. To make this description useful, we must describe the criteria that investors use in choosing among investments. We assume that investors take risk and return alone into consideration when maximizing their utility of terminal wealth.
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> **Investors Have Homogenous Expectations of Risk and Return**
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> This assumption simply states that all investors' estimates of risk and return are similar. To have the single efficient frontier of modern portfolio theory, we must have consensus estimates of the mean and variance and thus of the relative value of each investment. Without a consensus, each investor or group of investors could have very different forecasts for variance and for mean return. Consequently, the efficient portfolio for one investor would be quite different from that for another. . . .
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> We use homogeneity because it yields a simple, more easily generalized, model. Other choices might lead to a richer framework, one that would describe capital market activity more accurately but would be much more complex.

In addition, Copeland and Weston[2] state:

[1] Diana R. Harrington, Modern Portfolio Theory & The Capital Asset Pricing Model – A User's Guide, Prentice-Hall, Inc., Englewood Cliffs, NJ, 1983, pp.22-27.
[2] Thomas E. Copeland and J. Fred Weston, Financial Theory and Corporate Policy, 3rd Ed., Addison-Wesley Publishing Co., Reading, MA, 1988, p. 117.

> The second determinant of a pure security's price, and a cause for differences in security prices, is individuals' beliefs concerning the relative likelihood of different states occurring. These beliefs are often termed *state probabilities*, Π_s. Individuals' subjective beliefs concerning state probabilities can differ in principle. However, the simplest case is one in which individuals agree on the relative likelihoods of states. This assumption is termed *homogenous expectations* and implies that there is a well-defined set of state probabilities known to all individuals in the capital market.

In their discussion of the Capital Asset Pricing Model, Copeland and Weston[3] further state:

> Another important assumption is that investors have homogeneous beliefs. They all make decisions based on an identical opportunity set. In other words, no one can be fooled because everyone has the same information at the same time.
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> * * * *
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> Although not all these assumptions conform to reality, they are simplifications that permit the development of the CAPM. . .

Two things are clear from these excerpts. First, emulating collective investor behavior is indeed the goal when applying cost of common equity models. Second, the simplifying assumption of homogenous investor behavior is necessary in order to utilize the models. The cost of common equity, i.e., investor required return on common equity, is what investors, collectively, say it is, not what I or Ms. Kight might wish it to be. In order to determine or evaluate what the investor required rate of return on common equity is, investor behavior must be emulated and to apply the cost of common equity models available to do so, one must assume homogenous investor behavior and expectations as such an assumption is at the foundation of the Efficient Market Hypothesis, upon which all of Ms. Kight's and my cost of common equity cost rate models are based.

[3] Id. P. 194.

Q. On page 4 of ICC Staff Exhibit 9.00 Ms. Kight appears to believe that you think that her Discounted Cash Flow (DCF) analysis used to derive the market return and her DCF analysis on her water comparable group use the same companies. Please comment.

A. I am aware that the two DCF analyses utilized two different groups of companies. That was not my point. My point was that using a DCF analysis to develop the market return for use in a Risk Premium (RPM) or CAPM analysis does not provide independent corroboration of another DCF analysis. If one truly wishes to independently corroborate the results of one cost of common equity model, i.e., DCF, one cannot use that model in determining a component of that corroboration.

Additionally, Ms. Kight's description of the forecasted market return I utilized in my RPM and CAPM analyses as DCF-derived is misplaced. The Value Line forecasted total return on the market is the result of independent forecasts of the expected price range of each individual company covered by Value Line based upon its hypothesized economic environment 3-5 years hence. The estimation process takes into account expected changes in the many factors which influence market prices, such as changing price-earnings multiples. This is significantly different from the DCF model, which does not take into account relative changes in price-earnings ratios or changes in the general economy and requires the use of accounting measures of growth as a proxy for market price appreciation. The use of such accounting measures of growth is largely circular in reasoning because these measures are influenced by regulatory decisions. In contrast, the Value Line estimating process is independent, non-circular and investor-influencing because Value Line is a widely subscribed-to publication which influences investors' perception of the expected return rate for the market as a whole. Hence, the use of the Value Line forecasted return rate on the market in my RPM and CAPM analyses is not a DCF analysis.

Q. On page 4, at lines 63-64 of ICC Staff Exhibit 9.00, Ms. Kight states that "R_M can only be estimated through a DCF calculation without resorting to untimely, obsolete historical data." Please comment.

A. Her statement is false. As explained in detail in my direct testimony, CIWC Exhibit No. 3.0 on pages 40-43 and further explained in my rebuttal testimony, CIWC Exhibit No. 3.0R on pages 14-15, 18-19, 24-25 and Schedule 5, the arithmetic mean of holding period stock returns over a long period of time is entirely appropriate for cost of capital purposes as, statistically speaking, the arithmetic mean is the best estimate of the next value of a randomly generated distribution, such as stock returns over a very long period of time. Hence, Ms. Kight is incorrect in stating that the only way that the expected R_M can be estimated is through a DCF calculation.

Q. Please comment upon Ms. Kight's discussion of sample selection in her rebuttal testimony.

A. On page 6, lines 101-103, Ms. Kight claims that I relied upon credit ratings and business profiles to show that the companies in my utility sample were similar in risk to CIWC. Her statement is false. Credit ratings and business profiles were not among the selection criteria with which I selected my proxy groups of comparable water and comparable utility companies. A review of the selection criteria shown on page 2 of both Schedule 4 and Schedule 5 of CIWC Exhibit No. 3.0 reveals that credit rating and business profiles are not part of the selection criteria. In fact, they are not even mentioned in the selection criteria. I used bond / credit ratings and business positions to establish group specific forecasted bond yields in my RPM analysis and to establish the appropriate target pretax interest coverage range of Standard & Poor's (S&P) in assessing the reasonableness of my recommended cost of common equity and the Company's requested cost of common equity.

Second, on pages 6 and 7, lines 105-117 of ICC Staff Exhibit 9.00, Ms. Kight once again criticizes the selection criteria for the proxy group of thirteen utilities selected on the basis of least relative distance. It is true that "recent industry restructuring has rendered questionable the measurement of financial and operating risk with historical data for many utilities". However, those data are compared with similar data for CIWC on the basis of least relative distance. Consequently, any companies whose historical financial and operating statistics have been influenced by recent industry restructuring, would be eliminated from the sample because their data would not fall within the least relative distance.

Third, although S&P's bond rating process involves a comprehensive analysis of operating and financial risk which can provide insight into common equity risk, it is but a proxy for common equity risk. Credit ratings and business positions / profiles are measures of credit risk not common equity risk. Moreover, S&P's bond rating process involves more than just a cursory look at the four financial ratios shown in Ms. Kight's Table 2 on page 9 of ICC Staff Exhibit 3.0 for a given, short 3-year historical average. S&P's analysis is much more comprehensive, assessing such factors as markets and service area economies, size, competitive positions, operations, regulation, management, in addition to earnings protection measures, capital structure, cash flow adequacy, and financial flexibility / capital attraction (see page 3-9 of Schedule 2 of CIWC Exhibit No. 3.0) Moreover, S&P states that while "historical analysis is a tool for identifying strengths and weaknesses", it "provides a starting point for evaluating financial condition." Hence, S&P's analysis looks beyond the historical experience of a mere four ratios, i.e., to myriad other risk factors, both historically and prospectively.

Finally, CIWC has an arm's length rating of 2 assigned by National Association of Insurance Commissioners (NAIC), which rates the debt issues of small companies who place debt privately with insurance companies. CIWC is one such company because it is

unable to place debt in the public markets at a reasonable cost due to its extremely small size. Furthermore, an NAIC rating of 2 is equivalent to the Moody's Baa or S&P BBB bond rating category as indicated in CIWC's response to Staff Data Request SK 3.01 which is attached as Schedule 1. CIWC's rating of 2 by the nationally known NAIC stands in stark contrast to Ms. Kight's imputed bond rating of A+ based upon only four financial ratios for a recent 3 year time period which is not consistent with S&P's bond / credit rating methodology.

Q. What is the relevance of CIWC's rating of 2 by the NAIC?

A. CIWC's rating of 2 by the NAIC is relevant because Ms. Kight's recommended common equity cost rate of 9.86% is based upon the market information of companies with bond / credit ratings in Moody's and S&P's A rating category. As stated above, an NAIC rating of 2 is equivalent to the Moody's Baa and S&P BBB bond / credit rating categories. A company with a bond / credit rating which is equivalent to a Baa / BBB rating is clearly more risky than companies with an average a bond / credit rating and a common equity cost rate based upon the market data of these companies will understate the common equity cost rate for the Baa / BBB equivalently rated company. Hence, Ms. Kight's recommended common equity cost rate of 9.86%, which is applicable to companies whose bond / credit rating averages in the A category, understates the common equity cost rate of CIWC, with an equivalent rating of Baa or BBB.

An indication of the extent of said understatement is the spread between yields on Moody's A rated and Baa rated public utility bonds. As shown in the Mergent Bond Record (November 2003) Moody's A rated public utility bond yields averaged 6.43% for the month of October 2003 , while Moody's Baa rated public utility bond yields averaged 6.79%, or 36 basis points greater. Hence, Ms. Kight's recommended common equity cost rate should be increased by a minimum of 36 basis points to 10.22% to be applicable to CIWC whose bond / credit rating is the equivalent of Moody's Baa or S&P's BBB.

Moreover, such a cost rate still understates the common equity cost rate to CIWC because it does not fully capture the increased risk of CIWC due to its small size as discussed at length in both my direct testimony (at pages 10-12 and pages 60-61) and again in my rebuttal testimony (at pages 8-10).

Q. On page 10, at lines 171-172 of ICC Staff Exhibit No. 9.00, Ms. Kight states that you have confused "required rates of return on market equity with expected rates of return on book equity." Please comment.

A. My only comment is that there is no confusion. Rate base / rate of return regulation is about doing just that. The rate of return to be authorized in this and any rate base / rate of return proceeding is derived from a required rate of return on market equity. When it becomes part of the revenue requirement formula, i.e., rate base times rate of return, it establishes an expected earnings rate on common equity financed portion of rate base, which is original, i.e., book, cost, hence, a rate of earnings on book equity. And, as demonstrated in my direct testimony at pages 26-27 and Schedule 6 of CIWC Exhibit No. 3, the DCF model, when used exclusively, will misstate investors' expectations when applied to a book value rate base which differs from market value, because there is no realistic opportunity to earn the market-based rate of return on book value.

Q. On page 15, line 267 through page 16, line 282 reiterates her contention that it is inappropriate and unnecessary to utilize historical market price data in a DCF analysis. Please comment.

While it is true that DCF theory calls for the use of a current market price in the development of the dividend yield component of the DCF, spot prices are subject to a great degree of volatility, may represent an aberrational or abnormal market environment

and, thus, may yield a distorted cost of common equity estimate. Malkiel, the father of modern portfolio theory, states[4]:

> Moreover, I worry about accepting all the tenets of the efficient-market theory, in part because the theory rests on several fragile assumptions. The first is that perfect pricing exists. As the quote from Paul Samuelson indicates, the theory holds that, at any time, stocks sell at the best estimates of their intrinsic values. Thus, uninformed investors buying at the existing prices are really getting full value for their money, whatever securities they purchase.
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> This line of reasoning is uncomfortably close to that of the "greater-fool" theory. We have seen ample evidence in Part One that stocks sometimes do not sell on the basis of anyone's estimate of value (as hard as this is to measure) – that purchasers are often swept up in waves of frenzy. The market pros were largely responsible for several speculative waves from the 1960s through the 1980s. The existence of these broader influences on market prices at least raises the possibility that investors may not want to accept the current tableau of market prices as being the best reflection of intrinsic values.

While spot market prices are appropriate according to DCF theory, the reality of capital markets indicates that it is more appropriate to average, or normalize, market price data over a reasonable period. In addition, Morin states[5]:

> In words, the random-walk model asserts that the best forecast of today's stock price is yesterday's stock price, along with some forecasting error, and not some combination of previous stock prices. In practice, the analyst observes the current stock price, along with its volatility over the past year, as measured by the standard deviation. The standard deviation around the current stock price provides a 95% confidence interval. For example, if the current stock price is $50 and the standard deviation measured over the last year is $3.00, the random-walk model would employ a stock price ranging from $47 to $53.

Thus, Morin supports the use of historical data in developing the dividend yield component of a DCF analysis. Use of average prices over a historical time period also reflects the volatility of market prices and helps respond to Morin's and Malkiel's observation that, in the real world of capital markets, the current spot market price may not

[4] Burton G. Malkiel, A Random Walk Down Wall Street, W. W. Norton & Company, New York, 1990, p. 184.
[5] Roger A. Morin, Regulatory Finance: Utilities' Cost of Capital, Public Utilities Reports, Inc., Arlington, VA, 1994, p. 138.

be the best estimate of investor expectations. Moreover, most regulatory agencies do not rely solely upon spot market prices in applying the DCF model.

As to Ms. Kight's comment regarding the notion that the use of samples renders the use of historical market prices unnecessary, market aberrations will affect all companies in the market, e.g., immediately post-September 11, 2001, thus affecting all sample companies.

Q. Please discuss Ms. Kight's mathematical demonstration that "adjusting a beta is mathematically identical to the adjustment behind the empirical CAPM."

A. A mathematical equivalent does not prove that the theory behind adjusting beta for regression bias is identical to the theory behind the empirical CAPM. Ms. Kight is indeed correct that "[t]he Security Market Line ("SML") shows the linear relationship between the required rate of return on a security (R_j, on the Y-axis) and beta (on he X-axis)", thus indicating that return is a function of beta at a static moment in time. However, the CAPM describes a line where beta is a parameter, i.e., the slope, estimated by regressing the returns on an individual security on the returns on the market over an extended period of time. The function: Y = a + bX + e, is the standard simple linear regression equation, where Y, is equal to a constant, "a", plus "b" times X, where b is the slope coefficient, and X is the independent variable, plus an error term, e. To derive beta, Y equals a time series of an individual security's returns, "a" equals the intercept, "b" equals the estimated beta, or slope, coefficient, X equals the time series of returns on the market as a whole and "e" equals the error term. In contrast, in the SML, described with an identical formula, the parameters are defined differently: i.e., Y equals the required rate of return, "a" equals the risk-free rate, "b" equals the market risk premium and X equals beta. The slope of the

SML is not beta, as clearly indicated by Eugene F. Brigham, finance professor emeritus and the author of many financial textbooks states[6] :

> The slope of the SML reflects the degree of risk aversion in the economy – the greater the average investor's aversion to risk, then (1) the steeper is the slope of the line, (2) the greater is the risk premium for any risky asset, and (3) the higher is the required rate of return on risky assets.[12]
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> [12]Students sometimes confuse beta with the slope of the SML. This is a mistake. As we saw earlier in connection with Figure 6-8, and as is developed further in Appendix 6A, beta does represent the slope of a line, but *not* the Security Market Line. This confusion arises partly because the SML equation is generally written, in this book and throughout the finance literature, as $k_i = R_F + b_i(k_M - R_F)$, and in this form b_i looks like the slope coefficient and $(k_M - R_F)$ the variable. It would perhaps be less confusing if the second term were written $(k_M - R_F)b_i$, but this is not generally done.

Hence, because the CAPM and SML do not describe the same relationship, adjusting betas for regression bias and applying the ECAPM are indeed "discrete, unrelated adjustments." Ms. Kight has confused the slope of the Security Market Line (SML) with beta.

Q. On page 27, of ICC Staff Exhibit 9.00, lines 495-497, Ms Kight states that "[a]ccording to portfolio theory, investors are only compensated for risk that cannot be eliminated through diversification (i.e., systematic risk)." Please comment.

A. While this is true, in the context of portfolio theory, the goal of rate base / rate of return regulation is to establish an authorized return rate on the common equity portion of a utility's rate base which is based upon the investor required return on common equity based upon market data. Rate base / rate of return regulation's goal, then, is to establish the cost rate of common equity for a single firm, in isolation, i.e., not in the context of a portfolio. In that circumstance, compensation for total risk is of paramount importance

[6] Eugene F. Brigham, Financial Management – Theory and Practice, 4th Ed., The Dryden Press, 1985, p. 203.

because no diversification will take place which will eliminate / reduce diversifiable risk. Moreover, betas have low R^2, on the order of 0.09 (adjusted R^2 of 0.08) and 0.02 (adjusted R^2 of 0.00) for the regressions provided by Ms. Kight in response to CIWC Data Request PAA1.17, which indicates that 9% and 2% of the variation in a security's market price, or diversifiable risk, can be explained by the variation of prices in the market as a whole. If market-wide, nondiversifiable factors account for only between 2% and 9% of the variation in the market prices of the companies utilized by Ms. Kight in her beta estimations, this means that between 91% and 98% of the variation in those market prices are due to other company- or industry-specific factors. As Ibbotson Associates state[7]: "While the CAPM includes only one factor in determining expected return, it does not disallow the existence of others." Clearly, then, total risk, the sum of both diversifiable and non-diversifiable risk, is important in determining investors' expectations.

Q. Do you have any final comments regarding Ms. Kight's rebuttal testimony?

A. Yes. It is appropriate to reiterate the standards of fair rate of return first enunciated in the *Hope* and *Bluefield* landmark U.S. Supreme Court decisions. In 1923, *Bluefield* stated[8]:

> The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

In 1944, *Hope* endorsed the *Bluefield* standard and extended it one step further, establishing the "end result" standard when it stated[9]:

> The return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital.

[7] Ibbotson Associates, Stocks, Bonds, Bills, and Inflation: Valuation Edition 2003 Yearbook, Chicago, IL, 2003, p. 100.
[8] *Bluefield Water Works and Improvement Co. v. West Virginia Public Service Commission*, 262 U.S. 679 (1923)
[9] *FPC v. Hope Natural Gas Co.*, 320U.S. 591 (1944).

It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust or unreasonable, judicial inquiry under the Act is at an end.

Q. Does that conclude your surrebuttal testimony?

A. Yes.